Cliff Fietzek, Manager Connected eMobility

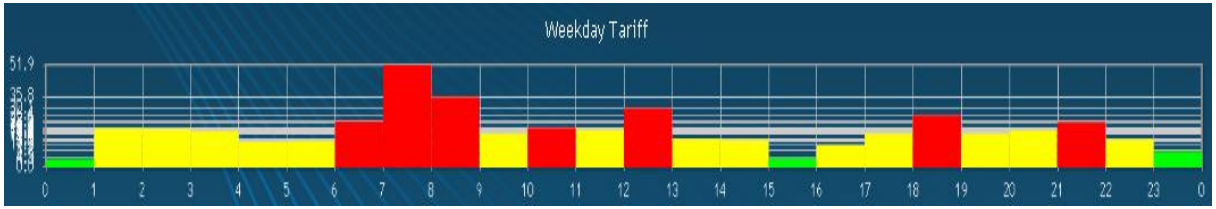
BMW VEHICLE GRID INTEGRATION.

“Charging functionality which calculates automatically the daily cost optimized charging window, based on a premium web app solution”.

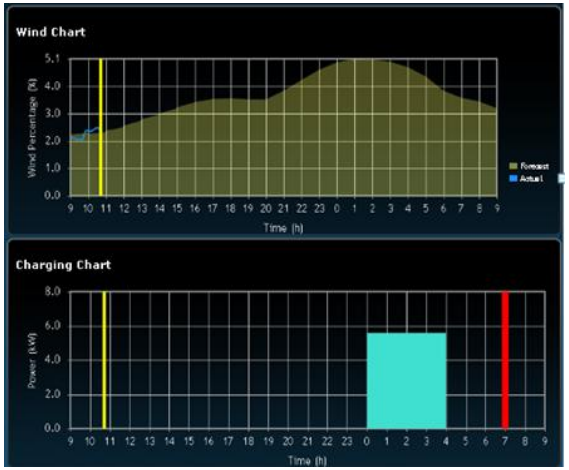
BMW GROUP

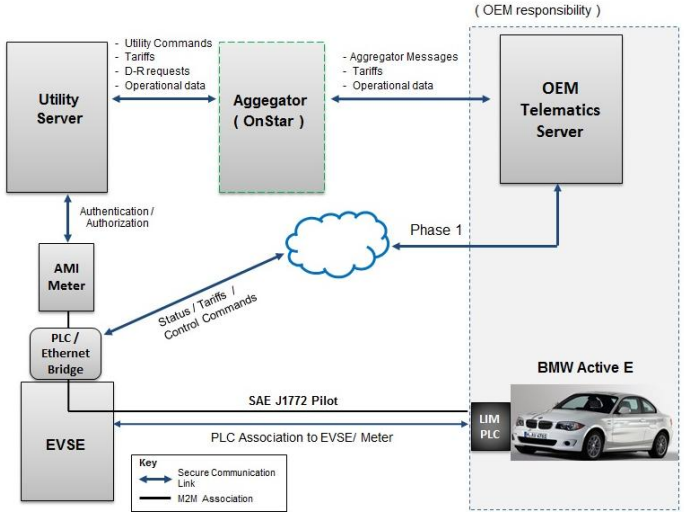
SMART CHARGING DEMO PROJECTS SINCE 2012.
BMW IMPLEMENTED SMART CHARGING PROJECTS WITH UTILITIES AND ISO'S.

- PSEG
  - Tariff optimized charging (the car charges when its cheapest)
- PJM



  - Wind optimized charging (charging when Grid Load is low and Wind Power is high)



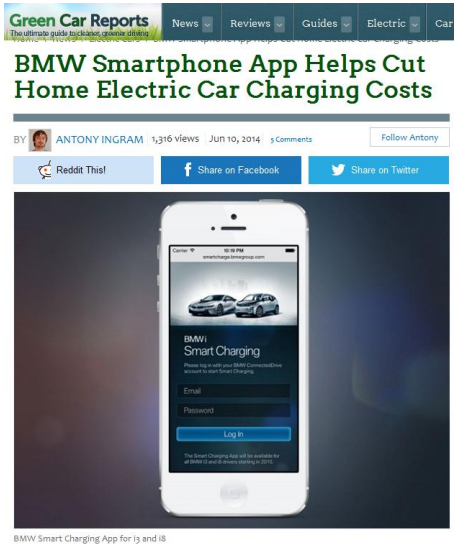


SMART CHARGING SERIES OFFER 2014.
BMW PUBLISHED SMART CHARGING APP FOR BMW I3.

- BMW i3 customers (2014 Electronauts only)
- Customers can select their utility tariff
- Customers set their departure time
- The i3 charges in the cheapest charging window

- Genibility

  (aggregates all US utility tariffs for BMW)

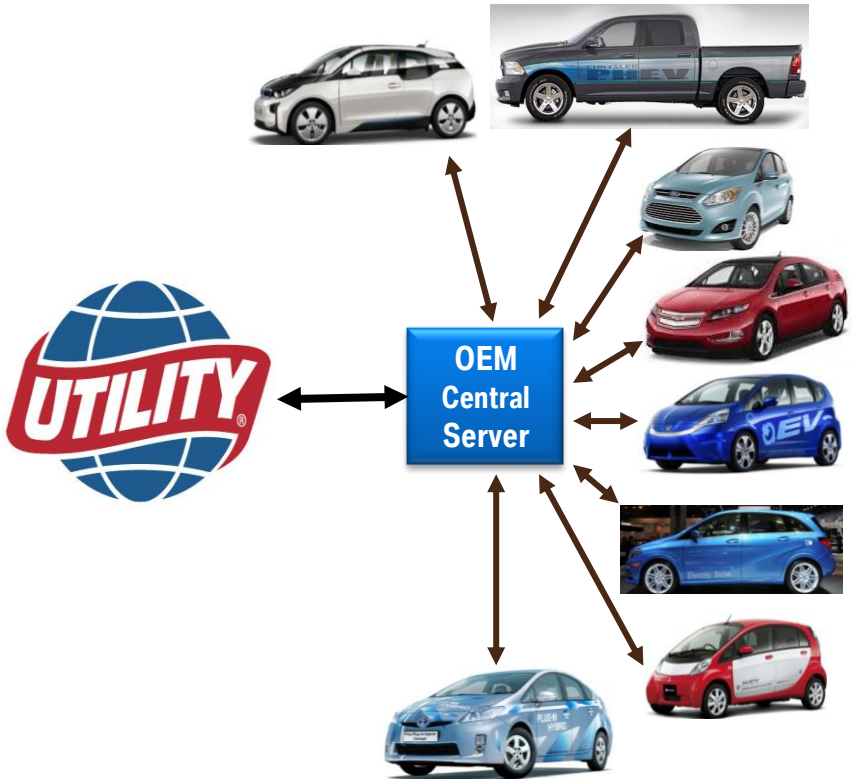


BMW Smart Charging App for i3 and i8

PEV/UTILITY INTEGRATED COMMUNICATIONS.
SERIES I3 CARS WILL PARTICIPATE IN THE OEMCS PROGRAM.

BMW teamed with 7 other OEMs, EPRI, and multiple major IOUs to develop a Vehicle Grid Integrated communications interface architecture

- Unified communications interface platform to OEM manufacturers' PEVs
- Accelerated path to production for on-vehicle smart charging communications technology
- Utilize open and extensible standards
  OpenADR 2.0b, SEP2, and ISO/IEC 15118
- Validate communications through the Cloud and AMI/HAN
- Common interface architecture open to 3rd Party ESPs, EVSPs, Aggregators, etc.
- Major joint utility and automotive industry effort to enable using PEV as a grid resource



BMW CHRYSLER Ford GM HONDA Mercedes-Benz MITSUBISHI MOTORS TOYOTA

VEHICLE GRID INTEGRATION IN THE FUTURE.
EPIC FUNDING.

1. The PEV/Utility Integrated Communications Program is an OEM priority
    - Brings together Utility and OEM industries to determine unified interface and communications solutions
    - Will provide common foundation to implement and test
        - Use cases for dynamic load management and aggregation services – step by step per VGI roadmap
        - Interoperability and compatibility of protocol standards – the best approach
2. Support for Utility owned and operated Infrastructure
    - DC Fast charging
    - Smart Level2 infrastructure
    - Wireless (in the future)
3. Battery Storage/ Second use (Residential and Commercial)

→ **Must address stakeholder value and customer engagement**

→ **CEC Funding Opportunity is needed to progress to the next phase**